

**IN THE UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF VIRGINIA  
NEWPORT NEWS DIVISION**

<b>HARRY L. GOODRICH</b>	)	
<b>and AGNES P. GOODRICH,</b>	)	
	)	
<b>Plaintiffs,</b>	)	<b>JURY TRIAL DEMANDED</b>
	)	
<b>v.</b>	)	<b>Case No.: 4:17-CV-00009-AWA-RJK</b>
	)	
<b>JOHN CRANE INC., et al,</b>	)	
	)	
<b>Defendants.</b>	)	

**MEMORANDUM IN SUPPORT OF JOHN CRANE INC.'S MOTION TO EXCLUDE  
THE TESTIMONY OF, AND STUDIES CONDUCTED BY,  
PLAINTIFFS' EXPERT, WILLIAM LONGO, Ph.D.**

Defendant John Crane Inc. ("JCI"), by counsel, submits the following Memorandum in Support of its Motion to Exclude the Testimony of, and Studies Conducted by, Plaintiffs' Expert, William Longo, Ph.D. In support of this Motion, JCI states as follows:

**I**  
Introduction

Evidence such as that offered by Dr. Longo is inadmissible when offered for the purpose of reconstructing (whether a dose of exposure or the details of an auto accident) events that took place in the past. Indeed, Dr. Longo – who was never formally educated in industrial hygiene or public health, and has never received any education or training on how to measure asbestos in the workplace (Deposition of William E. Longo, Ph.D., dated Feb. 12, 2007, cited portions attached as **Exhibit 1**, at 77:3-78:4) – has all but acknowledged that his “work practice simulations” do not

satisfy the Fourth Circuit's standard for the admissibility of such evidence.<sup>1</sup> These concessions alone make clear that Dr. Longo cannot be permitted to testify in this case.

To avoid this inexorable conclusion, plaintiffs will call Dr. Longo's testing something else: evidence on "general principles" of science. While the Fourth Circuit has recognized a diminished standard for such evidence, Dr. Longo's testing surely does not qualify to be merely evidence on general principles. To the contrary, other experts (and Dr. Longo himself) are asked to: (i) quantify "exposures" experienced by Mr. Goodrich while engaging in similar activities to those in Dr. Longo's studies; and (ii) opine upon the contribution of specific products to Mr. Goodrich's mesothelioma. As opposing counsel has admitted in prior cases, all that Dr. Longo is offered for is to serve as the factual predicate for plaintiffs' medical causation theory. This is precisely what it sounds like: accident reconstruction. Because Dr. Longo does not satisfy the high bar for admission of such evidence, his test results, opinions, and videos must be excluded (either in whole or in part) under the Federal Rules of Evidence.

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<sup>1</sup> While Dr. Longo and his colleagues have performed numerous studies regarding gaskets and packing, these arguments are equally applicable to all of his studies.

**II**  
**Factual Background**

**A. Dr. Longo's Attempts to Reconstruct Work Practices**

Dr. Longo is offered to show asbestos release from the fabrication and removal of gasket material through the videos of his gasket fabrication and removal “work practice simulations.”<sup>2</sup> In performing his studies, Dr. Longo attempted to have his workers – a union pipefitter and former Navy machinist – use “the exact same tools” they employed on the jobsite back in the 1950s and 1960s. (*Jones* Tr. Trans., Vol. IV, dated Jul. 11, 2006 (“*Jones* Vol. IV”), cited portions attached as **Exhibit 4**, at 96:2-97:6; *King I* Tr. Trans., Vol. V, dated Nov. 14, 2007 (“*King I* Vol. V”), cited portions attached as **Exhibit 5**, at 912:9-913:2; *Sanders* Tr. Trans., Vol. VI, dated Jun. 8, 2009 (“*Sanders* Vol. VI”), cited portions attached as **Exhibit 6**, at 30:7-21 and 74:10-75:6.) Dr. Longo also sought to ensure, through review of affidavits and conversations with shipyard workers, that his studies employ “common work methods” used at a shipyard. (*Oney* Tr. Trans., Vol. VI, dated Apr. 2, 2007 (“*Oney* Vol. VI”), cited portions attached as **Exhibit 7**, at 1401:6-1402:20.) Dr. Longo claims that, when possible, he also talks to the plaintiff to verify that the work practices were consistent with those in his study. (*Sanders* Vol. VI at 87:6-88:5.) Dr. Longo did not do so in this case.<sup>3</sup> Instead, before each of their depositions, Mr. Goodrich and his co-worker witnesses,

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<sup>2</sup> Dr. Longo freely admits that his studies are out of line with generally accepted scientific literature, (Deposition of William E. Longo, Ph.D., dated Feb. 5, 2009 (“*Longo Stewart* Dep.”), cited portions attached as **Exhibit 2**, at 99:15-100:5), and that all of his testing has been conducted at the behest of plaintiff’s firms for litigation purposes. Further, none of his removal studies have been submitted for peer review. (*King II* Tr. Trans., Vol. VI, dated Oct. 27, 2008, cited portions attached as **Exhibit 3**, at 38:10-16.) This, however, does not appear to concern Dr. Longo; rather, Dr. Longo appears to believe that the scientific community must be wrong. (*Longo Stewart* Dep. at 100:18-101:17.)

<sup>3</sup> Dr. Longo admits that his expert report issued in this case is a patchwork of his opinions rendered in previous cases. See Deposition of William E. Longo, Ph.D., dated September 14, 2017 (“*Longo Goodrich* Dep.”), cited portions attached as **Exhibit 8**, at 23:13-24:2.

William Kaczor and Kenneth Barnett, were shown videos of Dr. Longo's gasket and packing work practice studies to "confirm" that the practices depicted were "the same" as those employed by machinist mates in the Navy during 1959-1963.<sup>4</sup>

1. Gasket Fabrication<sup>5</sup>

Through his studies, Dr. Longo sought to mimic these work practices using products of the various companies that are sued in asbestos litigation. This included JCI "2150" gasket material that was provided to Dr. Longo by a plaintiff's lawyer after it was found leaning against a wall in an industrial storage room (where other gasket material was stored) in Buffalo, New York. (*King I* Vol. V at 965:1-21.) Longo does not know how long the material had been there, (*Jones* Vol. IV at 187:3-16), but concedes that it could have been there more than 20 years. (*Sanders* Vol. VI at 68:14-69:3.) Dr. Longo estimates that the gasket material is comprised of 20-35% synthetic rubber. (*King I* Vol. V at 900:1-8.) Dr. Longo acknowledges that "[i]f you set rubber ... out in a room over time it can degrade." (*Id.* at 964:8-12.) There is no indication (and plaintiffs have not proven) that any gasket material with which Mr. Goodrich would have worked would have been anywhere close to that age or extent of degradation.

Regarding the purported "similarities" between how Mr. Goodrich performed his work and those in Dr. Longo's work practice studies, the latter depicts – as reflected in still frames from the

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<sup>4</sup> Deposition of Harry L. Goodrich, dated May 2, 2017 ("Goodrich De Bene Esse Dep"), cited portions attached as **Exhibit 9**, at 57:6-59:1, 65:20-67:13, and 68:5-74:18; Deposition of Kenneth Barnett, dated Aug. 31, 2017 ("Barnett Dep."), cited portions attached as **Exhibit 10**, at 73:2-74:1; Deposition of William Kaczor, dated Jul. 12, 2017 ("Kaczor Dep."), cited portions attached as **Exhibit 11**, at 36:12-37:1 and 42:13-43:12.

<sup>5</sup> With respect to the installation of packing, Dr. Longo does not place much emphasis on such work as a source of exposure. It is his opinion that installation of packing does not result in "high-level fiber release." This is because the packing material was a "greased, oiled graphite material ... designed to slip into" the valve. (*Jones* Vol. IV at 182:15-23.)

video made Exhibits 28, 36, 40, 41, 42, and 43 to Mr. Goodrich's De Bene Esse Deposition by opposing counsel (attached here as **Exhibit 12**) – a worker fabricating a gasket atop a work bench in a controlled room. Yet Mr. Goodrich testified that with respect to his work space aboard ships, he was stationed in the forward fire room, forward engine room or the valve shop on three different vessels, the USS Corry, the USS Harlan Dickson and the USS Yosemite. (Goodrich De Bene Esse Dep. at 121:20-122:9.)

2. Gasket Removal

With respect to his gasket removal studies, the valves and flanges used in Dr. Longo's removal studies came off of a steam line from a power plant in Oregon that had been out of service for some time. (*Jones* Vol. IV at 71:13-24.) Indeed, the plant shut down in 1994, and Dr. Longo has no idea how long the gaskets and packing had been in service on the piping system prior to that time. He also does not know whether the valves in question may have been out of service prior to 1994. (*Id.* at 164:12-24.) Likewise, Dr. Longo's more recent studies on Crane valves also involved flanges that had been out of service for approximately 20 years. *See Longo, W.E., Exposure to Airborne Chrysotile and Amphibole Fibers During the Removal of Flange and Bonnet Gaskets: A Work Practice Study.* Sep. 2010, cited portions attached as **Exhibit 13**, at 1-4; and Longo, W.E., *Crane Co. II Valve Flange Gasket Removal with Wire Brushing & Pneumatic Power Grinding A Work Practice Study.* July 2015, cited portions attached as **Exhibit 14**, at 1 and 5.<sup>6</sup> There is no evidence presented by plaintiffs that Mr. Goodrich ever worked on valves that had been out of service for such a period of time.

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<sup>6</sup> Crane Co., the manufacturers of those valves, is a different company from JCI. They are not affiliated in any way.

Regarding the gasket material on those flanges, Dr. Longo cannot say that they were JCI gaskets. (*Longo Stewart Dep.* at 18:15-18.) In fact, if Dr. Longo “had to guess,” he believes that at least one of the gaskets used in his study *is not a JCI gasket*, but rather was manufactured by Garlock. (Deposition of William E. Longo, dated Oct. 11, 2007, cited portions attached as **Exhibit 15**, at 54:13-21.)<sup>7</sup> While Dr. Longo attempts to recover from this fatal flaw (as detailed below, one of many) by asserting that all gaskets are the same – that “a gasket is a gasket is a gasket” – he is unable to offer any information comparing: (1) one manufacturer’s product to another in terms of its original material or chemical makeup,<sup>8</sup> (2) how two manufacturers’ products degrade over time and through the various types of service or application in which it is placed, and (3) how the same work activities might differ depending upon the signature chemical and physical properties of each manufacturer’s product. (*Longo Stewart Dep.* at 29:23-30:7; *Koonce Tr. Trans.*, Vol. VI, dated Aug. 25, 2008, cited portions attached as **Exhibit 17**, at 56:13-58:16.)

#### B. Dr. Longo’s Attempts to Reconstruct Dose of Exposure

Dr. Longo’s central opinions are those in which he quantifies the amount of asbestos allegedly released by JCI gasket and packing products when manipulated in the methods described

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<sup>7</sup> This is important because plaintiffs’ counsel has argued in previous cases that Dr. Longo’s studies conclusively prove that JCI’s products were not encapsulated and has implied that his studies showed the release from a JCI gasket that an individual would have been exposed to. (*King II Tr. Trans.*, Vol. X, dated Oct. 31, 2008, cited portions attached as **Exhibit 16**, at 38:4-8.) Such an argument is patently misleading when Dr. Longo himself admits that he is unaware of the manufacturer of the material tested.

<sup>8</sup> In terms of the composition of the gasket material he has examined, while his testimony varies somewhat, the range of asbestos content to which he has referred over the course of his testimony varies from 48-100%. (*Oney* Vol. VI at 1388:11-1390:9; *King I* Vol. V at 900:1-16; *Longo Stewart Dep.* at 49:2-50:22.) It does not appear that Longo has determined the contents of the gasket material beyond asbestos and rubber. (*Id.* at 17:17-18:8.)

by plaintiffs and their co-workers.<sup>9</sup> Dr. Longo further testifies as to the amount of air typically breathed by an individual. From these figures, Dr. Longo opines on the number of asbestos fibers breathed by an individual in a day, a week, and a year. (*Jones* Vol. IV at 76:4-79:5, 83:18-24.)

Dr. Longo ostensibly disavows any attempt (or intent) on his part to “reconstruct the dose” of any particular plaintiff’s exposure. (*Sanders* Vol. VI at 32:23-33:3.) He concedes in every case that with regard to the numbers he calculates, “these levels can’t be translated to the workplace. You could have lower, you could have higher, depending on the circumstances.” (*Jones* Vol. IV at 79:11-14.) Indeed, he admits that “[n]one of our numbers can tell you *exactly* what anybody’s exposure is .... All our studies tell us is that they have the potential to get this high ... you can’t take any of our numbers and say any individual had exactly that exposure.” (*Id.* at 174:6-18).

This is because, as Dr. Longo acknowledges, “a lot of different factors” impact any person’s level of exposure. (*Sanders* Vol. VI at 31:14-32:8.) A non-exhaustive list of these variables would include: length of time in service, temperature and pressure, the amount of time it takes to fabricate or remove the product, tools/work methods used, size of the product, the amount of force applied, the number of workers, the size of the work space, ventilation, cleanup, the amount of asbestos in the product, and moisture content. (*Jones* Vol. IV at 103:21-106:22; Deposition of William E. Longo, Ph.D., dated Apr. 23, 2009, cited portions attached as **Exhibit**

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<sup>9</sup> With regard to the removal of packing, Mr. Goodrich testified that he could never tell the name of the packing manufacturer at the point that he removed it because the manufacturers name did not appear on the packing itself. (Goodrich De Bene Esse Dep at 169:9-14.) Thus, there is no testimony that Mr. Goodrich ever removed a piece of valve stem packing supplied by JCI. As such, there should be no evidence permitted from Dr. Longo on the question of exposure from removal of packing because such testimony is speculative and lacking a sufficient factual basis. *See Tyger Constr. Co. v. Pensacola Constr. Co.*, 29 F.3d 137, 142 (4th Cir 1994) (“An expert’s opinion should be excluded when it is based on assumptions which are speculative and are not supported by the record.”).

18, at 32:3-6-37:19; *Oney* Vol. VI at 1341:24-1344:12.) Longo states that the “biggest variable is how much does the gasket stick to the flange.” (*Id.* at 1341:5-9.)

Dr. Longo does not know the values of these variables as they pertain to Mr. Goodrich, and other variables exist that Dr. Longo cannot name. But he admits that all of these variables – the known and the unknown variables, as well as the variables for which he has values and the variables for which he does not – bear on the inference (his opinion) that Mr. Goodrich was exposed to high levels of asbestos. The Fourth Circuit and this District has unequivocally stated that “relevance of experimental evidence depends on whether testing was conducted under conditions ‘substantially similar’ to those of actual use,” *Ramsey Products Corp. v. Morbark Indus. Inc.*, 823 F.2d 798, 804 (4th Cir. 1987), and that expert testimony is “not receivable if [the expert] failed to take into account every relevant factor.” *Whittaker v. Van Fossan*, 297 F.2d 245, 246 (4th Cir. 1961); *see also Smithers v. C & G Custom Module Hauling*, 172 F. Supp. 2d 765, 773 (E.D. Va. 2000) (holding expert opinion which failed to consider important variables unreliable). Dr. Longo has clearly not considered all of the variables bearing on the inference that Mr. Goodrich was exposed to high levels of asbestos, and for that reason alone this Court should preclude his testimony.

Yet at the same time, Dr. Longo asserts “[w]e can study the product itself and understand, okay, this particular product has this tendency to release this amount of fibers. So it gives us an idea, a range of exposures an individual would have had when they used these products.” (*King I* Vol. V at 912:4-8.) As Longo describes it, “You can’t ever say, well, this is what an individual absolutely got exposed to based on our study. What you can say is, we do know when you do this with these work practices, it has the potential for these ranges of exposure, so, yes, somebody doing this type of work is going to have very high exposures, based on our study.” (*Sanders* Vol.

VI at 31:7-13.) Thus, his studies provide “an idea of the kind of exposures these individuals would have had.” (*King I* Vol. V at 912:25-913:2.)

Opposing counsel has admitted that Dr. Longo’s testing is offered on the issue of causation. (*Jones* Vol. IV at 130:12-18.) Indeed, opposing counsel acknowledges that Dr. Longo’s testing is “the factual predicate for the [medical] doctor saying this amount of exposure is causative, a substantial contributing cause. And that’s all we’re talking about. *That’s all we’ve ever talked about with this witness.*” (*Id.* at 132:4-8) (emphasis added). Opposing counsel does in fact ask their standard medical expert, John Maddox, to render causation opinions based on Dr. Longo’s testing. (*Hardick* Tr. Trans., Vol. VI, dated Apr. 5, 2010, cited portions attached as **Exhibit 19**, at 145:11-21.) Moreover, Dr. Longo himself opines about whether, based on his studies, a given plaintiff experienced a substantial or significant exposure to asbestos while performing similar work. (See, e.g., *Hardick* Tr. Trans., Vol. IV, dated Apr. 1, 2010, cited portions attached as **Exhibit 20**, at 220:20-221:8.) From there, opposing counsel relies on Dr. Longo’s testing to argue to the jury in closing that their plaintiff experienced significant exposures to asbestos from JCI products that caused or contributed to the plaintiff’s disease. (*Hardick* Tr. Trans., Vol. XI, dated Apr. 12, 2010, cited portions attached as **Exhibit 21**, at 97:17-99:24, 104:4-108:9 and 118:18-23.)

### III Legal Argument

#### A. Legal Standard

When expert evidence is at issue, this Court must act as a gatekeeper to ensure the expert witness is qualified and his opinions are reliable and relevant. *PMB Products, LLC v. Mead Johnson & Co.*, 639 F.3d 111, 123 (4th Cir. 2011). Rule 702 of the Federal Rules of Evidence provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

In exercising its gatekeeping function, the court must utilize Rule 702 to ensure that: (1) the evidence or testimony is relevant, i.e., there is a proper "fit" between the testimony and the issue to be resolved at trial; and (2) "the reasoning or methodology underlying [an expert's] testimony is scientifically valid." *Daubert v. Merrell Dow Pharmas., Inc.*, 509 U.S. 579, 591-93 (1993). As the proponent of the expert testimony, Plaintiff bears the burden of proving admissibility by a preponderance of the evidence, including reliability, relevance and helpfulness to the trier of fact. Fed. R. Evid. 104(a); *Daubert*, 509 U.S. at 592-93, n. 10.

In order to meet the threshold of reliability, the court must determine whether "whether the expert's testimony is based on scientific knowledge, that is, whether the expert's conclusions are grounded in methods and procedures of science and reflect more than her subjective belief or unsupported speculation." *Garlinger v. Hardee's Food Sys.*, 16 Fed. App'x. 232, 235 (4th Cir. 2001) (quoting *Daubert*, 509 U.S. at 590). *Daubert* mandates the expert's conclusions be based on good grounds, which means "any step that render the analysis unreliable under the *Daubert* factors renders the expert's testimony inadmissible." *Cavallo v. Star Enter.*, 892 F. Supp. 756, 762 (E.D. Va 1995), *aff'd in part rev'd in part and remanded*, 100 F.3d 1150 (quoting *In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717, 745 (3rd Cir. 1994)).

**B. Dr. Longo's Experiments Must Be Substantially Similar To The Conditions Of Mr. Goodrich's Alleged Exposure.**

It has long been the rule in the Fourth Circuit, and in the other circuits, that the "relevance of experimental evidence depends on whether testing was conducted under conditions

'substantially similar' to those of actual use." *Ramsey Products Corp. v. Morbark Indus. Inc.*, 823 F.2d 798, 804 (4th Cir. 1987) (citing *Renfro Hosiery Mills Co. V. National Cash Register Co.*, 552 F.2d 1061, 1065 (4th Cir. 1977); see also *Burchfield v. CSX Transp., Inc.*, 636 F.3d 1330, 1337 (11th Cir. 2011); *United States v. Norris*, 217 F.3d 262, 270 (5th Cir. 2000); *McKnight by & Through Ludwig v. Johnson Controls*, 36 F.3d 1396, 1401 (8th Cir. 1994); *Fusco v. Gen. Motors Corp.*, 11 F.3d 259, 264 (1st Cir. 1993) (all holding experiments purporting to simulate actual events will be admissible only when made under conditions substantially similar to those that are subject of litigation).

*Ramsey Products* involved a contractual dispute between a manufacturer of a wood chipper, Morbark Industries, and the manufacturer of the chain drive which drove the machine, Ramsey Products. 823 F.2d at 801. Morbark claimed the chain drives supplied by Ramsey were defective. Morbark attempted to introduce evidence it had tested a one-half-inch pitch chain drive, and the results of that testing which showed the chain wore out quickly under high stress. *Id.* at 803. The court excluded this evidence because the chain tested by Morbark and the chains supplied by Ramsey were different thicknesses and, thus, too dissimilar, and because the testing methods employed by Morbark differed from the testing utilized by Ramsey in the chain's specification. *Id.* at 804. Similarly, Dr. Longo cannot be certain the gaskets and packing used in his testing were (1) manufactured by John Crane, or (2) representative of the gaskets used by Mr. Goodrich aboard Naval vessels in the late 1950s and early 1960s.

When an expert's testimony is based on an out-of-court experiment and the conditions are not substantially similar, the testimony lacks sufficient foundation and is irrelevant. *Gladhill v. General Motors Corp.*, 743 F.2d 1049, 1051-1052 (4th Cir. 1984). Like Dr. Longo, in *Gladhill* an expert attempted to testify about a videotaped crash test, but the crash test differed materially

from the alleged accident as it was alleged in the complaint. The test was conducted in daylight and on a straight piece of road, while the alleged accident occurred at nighttime on an incline. *Id.* at 1051. The court found this was not a demonstration of a general principle, but an impermissible re-enactment, because the experiment depicted events in great detail yet differed from the complaint in such a way that would render the jury unable to visualize the opposing party's version of events. *Id.* The court concluded when a test aims to recreate events, the conditions cannot be dissimilar in such fundamental and important respects. *Id.* at 1052.

The court reached a similar conclusion in *Chase v. General Motors Corp.*, 856 F.2d 17 (4th Cir. 1988). An expert witness attempted to testify about crash tests which were conducted in conditions completely dissimilar to the accident at issue. *Id.* at 19. Quoting *Gladhill*, the court noted "when the demonstration is a physical representation of how an automobile behaves under given conditions, those conditions must be sufficiently close to those involved in the accident at issue [...]" *Id.* (quoting *Gladhill*, 743 F.2d at 1052). The test at issue differed because it was conducted on a dry or damp road, but the accident occurred in freezing temperatures and with snow on the ground. *Id.* Here, Dr. Longo testing serves as a physical representation of how a gasket or packing would behave, but pays little care or attention to tailoring the conditions of his experiments to the myriad conditions of the alleged exposure.

Likewise, in *Tunnell v. Ford Motor Co.*, 330 F. Supp. 2d 731, 746-747 (W.D. Va. 2004) the court excluded data from a speed test to the extent it was not substantially similar to data collected from the accident. The expert conducted two tests in order to determine the impact speed of the underlying accident, one test conducted at 40 mph and the other at 45 mph. The court found "merely picking two speeds and comparing the results of crashes at those speeds is little more than an educated guess." *Id.* at 746. Like Dr. Longo, the expert engaged in a deliberate reframing of

the accident by limiting his testing and discounting important variables. The court noted there was “no way of knowing whether a crash test at 25 mph or 55 mph would result in the same or similar damage” and excluded the results of the testing to the extent that it was no substantially similar to the accident. *Id.* 746-747.

The requirement of substantial similarity is especially important when the out-of-court experiment is videotaped. *Hinkle v. City of Clarksburg*, 81 F.3d 416, 424 (4th Cir 1996); *United States v. Hunter*, 912 F. Supp. 2d 388, 402-404 (E.D. Va. 2012). In *Hunter*, the United States attempted to introduce a video recreation of the sequence of events that allegedly led to the injuries of a child. The court excluded the video noting several incurable problems, such as a failure to reflect any information concerning the *mens rea* of the defendant. *Id.* at 404. The video recreation also differed in many ways from defendant’s prior testimony to the government, namely the recreation lasted much longer than the incident in question, and the doll used to represent the child was smaller than the child who had suffered injuries. *Id.* Dr. Longo’s testing and videos present the same kinds of incurable problems.

Like the requirement of substantial similarity, an expert’s testimony will be excluded when the expert has completely disregarded important variables, rendering the expert unreliable. *Smithers v. C & G Custom Module Hauling*, 172 F. Supp. 2d 765, 773 (E.D. Va. 2000). In *Smithers*, the plaintiff attempted to introduce the testimony of an expert to opine on the pre-impact speed of two vehicles involved in an accident. Much like Dr. Longo, plaintiff’s expert failed to consider a number of variables that could have affected his conclusion. The court noted “[a]mong the Court’s concerns is the fact that [the expert] effectively discounts several variables that *may* not have made a difference in the ultimate outcome of his analysis, but his discounting of them (which was fatal in the opinion of the defense expert) creates enough of a doubt as to the overall reliability

of [the expert's] ultimate opinions as to render them inadmissible." *Id.* at 771 (emphasis in the original); *see also Whittaker v. Van Fossan*, 297 F.2d 245, 246 (4th Cir. 1961) ("Even if [the expert] were competent to render the opinion he ventured, it was not receivable if [the expert] failed to take into account every relevant factor"). Dr. Longo admits that given the unknown (and unknowable) variables affecting dose, his testing – conducted nearly 50 years after the events in question on flanges and gaskets that are different in size and condition from many that Mr. Goodrich worked with – "can't be translated to the workplace." Dr. Longo's testing fails the Fourth Circuit's standards for out-of-court testing and his own standards for reliable recreations.<sup>10</sup>

### C. Dr. Longo Does Not Satisfy the "General Principles" Exception.

The Fourth Circuit distinguishes between experimental evidence which attempts to recreate the underlying incident and evidence of general principles. *Hinkle v. City of Clarksburg*, 81 F.3d 416, 425 (4th Cir. 1996). While recreations require substantial similarity to the underlying issue, illustrations of general principles do not. *Id.* Understanding that Dr. Longo's testing cannot pass muster under the substantial similarity test, plaintiff will likely attempt to cast Dr. Longo's testing as an illustration of a general principle, however Dr. Longo's testing is nothing but an attempt at recreation.

*Hinkle* was a dispute over a police shooting. At the trial level, the City of Clarksburg was permitted to enter a computer animation of a disputed shooting in order to support its version of events. 81 F.3d at 424. The court noted "there is a fine line between a recreation and an illustration,

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<sup>10</sup> Not only do Dr. Longo's tests and videos fail the substantial similarity test, the differences noted between his simulations and the conditions described by Goodrich, Kaczor, and Barnett fail to comply with Dr. Longo's own standards for "simulated" testing. As he co-wrote in 1994, a simulation such as that offered in this case "is only valid if the simulation is realistic, that is, if the work conditions and worker performance are faithfully reproduced." D.L. Keyes *et al.*, "Baseline Studies of Asbestos Exposure During Operations and Maintenance Activities," *App. Occ. Environ. Hyg.* 9(11), at 854 (1994) (attached as **Exhibit 22**).

the practical distinction is the difference between the jury believing that they are seeing a repeat of the actual event and a jury understanding that they are seeing an illustration of someone else's opinion of what happened." *Id.* at 425. The court also recognized that videotaped evidence has a very high potential for prejudicial effect due to its like-like nature. However, the court affirmed the trial court's decision to cure any prejudice with a limiting instruction. Unlike the animation at issue in *Hinkle*, Dr. Longo's testing and the accompanying videos suffer from multiple defects.

**D. Dr. Longo's Evidence Is Impermissible Reconstruction Evidence.**

The *Ramsey Products* line of cases and *Hinkle* represent the bookends of the "reconstruction" versus "general principles" continuum, with *Hinkle* supplying the criteria for determining if a videotaped experiment is offered as a demonstration of general principles or as a reconstruction. Applying these criteria here, there is no question Dr. Longo offers nothing more than reconstruction evidence. Because his tests do not meet the Fourth Circuit's standard for admissibility of such evidence, they cannot be admitted.

Dr. Longo's testing is not substantially similar to the circumstances of Mr. Goodrich's alleged exposure. First, there was no attempt to recreate the conditions under which Mr. Goodrich may have been exposed. All of Mr. Goodrich's potential exposure occurred aboard naval vessels, chiefly in the engine or fire rooms of two destroyers. There is no evidence which suggests Dr. Longo investigated these environments or visited these environments, let alone attempted to reproduce a substantially similar environment for his testing. There is also no evidence that Dr. Longo has made any attempt to gather information about the types of ventilation systems used on naval vessels in an attempt to recreate the environment of Mr. Goodrich's alleged exposure. See *Gladhill*, 743 F.2d at 1052; *Chase*, 856 F.2d at 19.

Second, there is no attempt to faithfully recreate the instrumentalities of Mr. Goodrich's alleged exposure. Dr. Longo's more recent studies have involved flanges and valves that have been out of service for approximately 20 years. There is no evidence to suggest Mr. Goodrich every worked on valves that were out of service for such a long of a period of time. Further, there is no evidence presented that suggests Mr. Goodrich ever worked on valves or flanges of the size utilized in Dr. Longo's testing. *See Tunnell*, 330 F. Supp. 2d at 746. Dr. Longo can also not attest as to whether the gaskets being removed in his studies were John Crane brand and cannot attest to the specific material composition of the gaskets he removed. *See Ramsey Products*, 823 F.2d at 804; *Hunter*, 912 F. Supp. 2d at 404. There is also no evidence which would indicate the pressures or temperatures of the line these gaskets were on, two major variables when it comes to gasket removal. *See Smithers*, 172 F. Supp. 2d 765, 771.

Dr. Longo's testing regarding gasket fabrication is similarly flawed. The gasket material utilized by Dr. Longo is of unknown age and is likely more than 20 years old. There is no evidence that suggests Mr. Goodrich ever fabricated as gasket using material that old. *See Ramsey Products*, 823 F.2d at 804; *Hunter*, 912 F. Supp. 2d at 404.

In fact, Dr. Longo's testing has absolutely nothing to do with Mr. Goodrich. Rather, these tests were conducted and created as party of a "generalized litigation strategy developed before this case was even filed." *Krik v. Crane Co.*, 71 F. Supp. 3d 784, 791 (N.D. Ill. 2014) (excluding Dr. Longo's testing and videos because they failed to fit the facts of the case); *see also Berry v. CSX Transp., Inc.*, 709 So. 2d 552, 561 (Fla. Ct. App. 1998) (raising concerns that the Longo studies had been conducted for general litigation purposes, not for the particular case before the court). This kind of generalized testing, which discounts the conditions of Mr. Goodrich's exposure without explanation, makes no attempt to recreate the alleged exposure using similar

products and discounts several important variables cannot be said to withstand the scrutiny of the substantial similarity standard as illustrated in the *Ramsey Products* line of cases discussed above.

The fact that Dr. Longo's testing is so generalized does not mean it is properly admitted as a demonstration of a general principle. To be sure, plaintiff does not intend to introduce Dr. Longo simply to teach the jury about asbestos exposure, but rather discuss his simulations as a recreation of actual events. In asbestos litigation, there is generally no dispute (and there is none here) that exposure to asbestos was the cause of injury. Instead, the question – one which Dr. Longo is offered to answer – is whether a specific product(s) caused or contributed to the injury.

Putting aside that distinction, opposing counsel's own questions of Mr. Goodrich makes clear that (far from addressing "general principles") he is employing the "substantial similarity" standard of the *Ramsey Products* line of cases on dose reconstruction. (Goodrich De Bene Esse Dep, at 57:6-59:1, 65:20-67:13, and 68:5-74:18). That plaintiffs rely on Dr. Longo for dose reconstruction is further reflected in Dr. Longo's description of using the "same" work methods and the "same" tools used by plaintiff, which he verifies through conversations with plaintiffs or co-workers. Dr. Longo also believes all gaskets and packing are the "same," and thus the testing he performs on one gasket or packing is, according to him, applicable to all. The point here is an obvious one: if it was not opposing counsel's intent to try to relate Dr. Longo's test results to Mr. Goodrich, there would be no need to seek this "fit" between his testing and any particular plaintiff's work history.

A lay person in a jury likely does not have familiarity with the mechanical workings of a naval vessel, and likely never removed or made a gasket before. Dr. Longo's testing will likely be the first time any member of a jury has seen the gasket making and removal process. It is very likely that the jury will believe they are seeing a repeat of actual events, rather than an illustration

of someone else's opinion. Further, because Dr. Longo's studies are on video, *Hinkle* imposes the same substantial similarity requirements as the *Ramsey Products* line of cases. Thus, irrespective of whether Dr. Longo is testifying about general principles or his recreation of Mr. Goodrich's exposure, the video of his experiments is inadmissible because it fails the substantial similarity test.

**E. Video Evidence of Dr. Longo's Work Practice Studies Is Irrelevant and Unfairly Prejudicial.**

In addition to the legal deficiencies, there is also the obvious prejudice of the manner in which Dr. Longo's video evidence is presented to the jury. First, the two individuals depicted in the videos and who conducted the work practice "simulations" are outfitted in moon suits and full-face, air-supplied respirators. Likewise, the individual in the fabrication study wore protective clothing, work apparel and respiratory protection. Both studies utilized high intensity lighting, known as Tyndall lighting, to increase the possible observations of dust release during the work practice. Commenting on Dr. Longo's use of this device, the court in *In re: Garlock Sealing Techs., LLC* concluded "there was no scientific purpose" for using Tyndall lighting and "nothing in the form of 'scientific' results were reported as a result of the lighting." 504 B.R. 71, 79 (Bankr. W.D.N.C. 2014). While the lighting was turned on and off during the videotaped studies, neither study showed the room with Tyndall lighting prior to gasket fabrication or removal. Thus, the ambient airborne dust in the room before the studies were commenced is never observed by the viewer.

Second, Dr. Longo testifies that the purpose of showing these videos during his trial testimony is to allow jurors to visualize, through the aid of Tyndall lighting, dust that might be invisible to the naked eye. This is primarily to explain that plaintiffs and co-workers who testified that they did not observe visible dust during gasket work were, in fact, being exposed to clouds of

invisible dust. But, at least in this case, Mr. Goodrich testified that he observed visible dust in his workspace while performing gasket fabrication and removal work. (Goodrich De Bene Esse Dep. at 56:22-57:2 & 60:16-20.) Thus, no purpose is served here, either by expert testimony or videotaped simulations – simulations that, according to Dr. Longo, are not intended to be representative of anything Mr. Goodrich experienced anyway.<sup>11</sup> The jury can call upon their own common experiences when evaluating Mr. Goodrich’s lay testimony concerning his observation of visible dust – a video of dust in a workspace in which Mr. Goodrich never set foot not only invades the fact-finding role of the jury, it is grossly misleading and unfairly prejudicial. Other courts from across the country have reached this very conclusion in excluding these videos. *See, e.g., Dugas v. 3M Co.*, No. 3:14-cv-1096-J-39GBT, 2016 U.S. Dist. LEXIS 98916, at \*7-9 (M.D. Fla. June 21, 2016); *Krik.*, 71 F. Supp. 3d at 791; *Grigg v. Allied Packing & Supply, Inc.*, No. RG12 629580 at 3 (Alameda, Cal. Sup. Ct. 2013) (attached as **Exhibit 23**); *see also In re Baron & Budd Grp. 40*, No. CV- 590141, 2007 Ohio Misc. LEXIS 842 (Ct. Com. Pl. Aug. 14, 2007) (“Tyndall lighting does not and cannot quantify a release, as Dr. Longo admits, and does not and cannot help the finder of fact answer the critical question as to whether the release was a substantial contributing factor in causing plaintiff’s disease.”).

For these reasons, the videos present “a genuine risk that the emotions of the jury will be excited to irrational behavior” and “this risk is disproportionate to the probative value of the

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<sup>11</sup> As plaintiffs’ lawyers well know, the videos of these simulations are far more powerful and effective on juries than Dr. Longo’s testimony concerning the air monitoring data from Longo’s work practice simulations. Thus, for even greater reason, the videos – which neither depict any actual work environment in which Mr. Goodrich was present, nor do they come close to a fair representation of Mr. Goodrich’s work environment – should be excluded. Indeed, many courts across the country that have permitted Dr. Longo to testify have excluded his videos for this reason.

offered evidence” and should be excluded under Federal Rule of Evidence 403. *United States v. Masters*, 622 F.2d 83, 87 (4th Cir. 1980).

**F. Should Longo Be Permitted To Testify At All, His Testimony Should Be Limited To Asbestos Exposure Technology Available At The Time Of Mr. Goodrich’s Alleged Exposure.**

Throughout the time period of Mr. Goodrich’s alleged exposure, the available technology did not permit the collection and counting of asbestos fibers, which has become the accepted way to measure asbestos exposure in the post-OSHA time period. Rather, monitoring for airborne asbestos fibers involved collecting *dust samples*, usually with a device called a “midget impinger.” (*Longo Goodrich Dep.* at 92:17-25; 96:17-98:16). The *only* available asbestos exposure standard at that time, based on a total dust measurement, was a standard known as a “threshold limit value” (TLV) published by the American Conference of Governmental Industrial Hygienists (ACGIH). (*Id.* at 91:18-92:13; 96:17-98:16.) The TLV for asbestos was set at five million particles per cubic foot (5 MPPCF) averaged over an eight-hour work day. *Id.* This 5 MPPCF TLV was principally for use in real-world occupational settings (where, as in the case of Mr. Goodrich, numerous asbestos-containing products may be present or used at the same time), it was the *only* asbestos standard by which to measure a product exposure. Unlike the highly technical and stringent rules that exist today (under OSHA, NIOSH and various other regulations and guidelines), there were no published standards or generally accepted methodologies in that time for setting up testing protocols, taking air samples, counting particles or fibers, or any of the rigorous quality control standards that currently must be followed. There were no defined or accepted ways of testing isolated products in the manner that Dr. Longo has conducted his tests. Other than the 5 MPPCF TLV, there were no standards, rules or guidelines by which to compare the dust counts from an isolated product test.

Evidence of other testing methods that were not available during 1959-63 are irrelevant. Federal Rule of Evidence 401 defines relevant evidence as “evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be with the evidence.” Whether asbestos exposure is above modern standards using modern testing techniques does not make it any more probable Mr. Goodrich was exposed to asbestos in excess of the ACGIH limits in effect at the time, measured using the midget impinger. In the same way it would be irrelevant and prejudicial to introduce current-day vehicle safety standards and regulations to judge a 1959 automobile, it is irrelevant and highly prejudicial to judge an asbestos-containing gasket sold in 1959 by modern-day technologies and methodologies. *See Taylor v. Gen. Motors Corp.*, 875 F.2d 816, 823 (11th Cir. 1989); *Sappington v. Skyjack, Inc.*, 512 F.3d 440, 453-54 (8th Cir. 2008). The same principle applies here, and if Dr. Longo is permitted to testify at all, his testimony should be limited to the technologies and methodologies that can be shown to have existed during the relevant timeframe.

#### **IV** Conclusion

For the foregoing reasons, JCI respectfully asks this Court to enter an Order excluding the testimony, opinions, test results and videotapes of Dr. William Longo. In the alternative, JCI requests that Dr. Longo’s testimony be limited to technologies that were available during the relevant time period.

Dated: January 12, 2018

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that on this 12th day of January, 2018, a true and accurate copy of the foregoing was filed electronically using the CM/ECF system, which will then send a notification of such filing (NEF) to all counsel of record.

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